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New micro-implants may be the key to curing cancer in 90 percent of patients  
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## **Implant Cures 90 Percent of Cancer Cases in Mice**

*The new therapy has tremendous potential*

A new innovative technique to treat cancer, devised by Harvard researcher David Mooney, uses micro-implants to summon a highly-effective response from immune system cells, basically turning the entire body on the tumors. In mouse models, the procedure registered a 90 percent success rate, which is very good, and which means that soon scientists may find a way of translating the results on humans as well.

Basically, our own defensive cells do not attack cancer in the first place because the cancerous cells grew in the body in the first place. So, in order for killer T cells, for example, to be activated, they require a cue to tell them that there is something wrong on their "turf," which needs fixing. And while some treatments exploit this fact, and seek to remove immune system cells and then reintroduce them for optimum effect, no conclusive results have yet been reached via this path, as more than 90 percent of the reinserted cells die shortly, before taking effect.

But with the new technique, this problem is solved simply because the immune cells do not have to be removed from the body anymore. Rather, they are attracted to the implants that are inserted in the body of the victim. The implant contains two types of chemicals, recessed into tiny grooves on its sides - an antigen, as in the molecular signature of the virus or bacterium that needs treating, and an alert signal, derived from DNA.

Once exposed to both these substances, immune messenger cells take off and meet killer T cells, to whom they pass on the information. Once these cells are activated, more and more are produced, and only the tumor is targeted, and not the surrounding tissue, which is often damaged in other cancer treatments.

According to Mooney, in mice trials 90 percent of the models that were given the full implants survived. The others, in a test group, died within 18 days of receiving the shots. Both groups were infected with highly aggressive melanoma cells.

"There have not been any reports of the traditional [external] dendritic cell activation having survival rates at the levels we find with our materials for the cancer model we used," Mooney explained.

"It is a continuous process - dendritic cells are attracted to the device, take up the antigen and [the warning signal] and then they can leave. New cells are continuously arriving while activated cells are leaving," he added, while explaining that the process is continuous, and that the chemicals in the implants are released over time.